

DaimlerChrysler AG

Patent Claims

- 5 1. A method for testing whether planar material, in particular films, is leakproof, in which the planar material (19) is continuously conveyed through a test chamber (1a), characterized in that
- 10 - the test chamber (1a) has a test gas chamber (3) on one side of the planar material and a measuring chamber (12) on the other side of the planar material and the planar material is subjected to a test gas with a predefinable test pressure on the test gas chamber (3) side,
 - 15 - the test gas chamber (3) and/or the measuring chamber (12) are sealed at a test chamber inlet duct (17) and/or a test chamber outlet duct (18) for the planar material by means of a gas curtain whose gas pressure is higher than the gas pressure in the test
 - 20 gas chamber (3) or the measuring chamber (12), and
 - the presence of test gas on the measuring chamber (12) side is detected.
2. A device for testing whether planar material is
- 25 leakproof, having
- a test chamber (1a) which has a test chamber inlet duct (17) and a test chamber outlet duct (18) for the planar material, and
 - means (20a, 20b) for continuously conveying the
 - 30 planar material through the test chamber,
- characterized in that
- the test chamber (1a) has a test gas chamber (3) and a measuring chamber (12) on opposite sides of the introduced planar material, with the measuring chamber
 - 35 (12) and/or the test gas chamber (3) having an open-pore material which, on its side facing away from the planar material, has a planar surface right through from a test chamber inlet duct (17) to a test chamber

outlet duct (18),

- a supply unit (5) is provided for the test gas and
- a test gas sensor system (14) which is assigned to the measuring chamber is provided.

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3. The device for testing whether planar material is leakproof, in particular as claimed in claim 2, having

- a test chamber (1a) which has a test chamber inlet duct (17) and a test chamber outlet duct (18) for the planar material, and

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- means for continuously conveying the planar material through the test chamber, characterized in that

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- the test chamber (1a) has a test gas chamber (3) and a measuring chamber (12) on opposite sides of the introduced planar material, with at least one of the two ducts being capable of being sealed by means of a gas curtain which is formed by a compressed gas in its lumen against the test gas chamber (3) and/or the measuring chamber (12),

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- a supply unit (5) is provided for the test gas, and
- a test gas sensor system which is assigned to the measuring chamber is provided (14).

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4. The device as claimed in claim 3, further characterized in that the inlet duct (17) and/or the outlet duct (18) are bounded by in each case two compressed gas chambers (8a, 8b) which lie opposite one another and which generate the respective gas curtain.

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5. The device as claimed in claim 4, further characterized in that an open-pore material (4b, 4d) is introduced into at least one of the compressed gas chambers (8a, 8b).

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6. The device as claimed in one of claims 2 to 5, further characterized in that it has a vacuum pump (16) which is coupled on the suction side to the measuring

chamber.

7. The device as claimed in one of claims 2 to 6,
further characterized in that it has a computer-
5 supported image processing system (22) for coarse leak
detection on the inlet side of the test chamber (1a).